

AMENDMENTS TO THE CLAIMS

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1. (Currently Amended) A concentric hopper and burn chamber comprising:
 - a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet; and
 - a hopper to hold solid sulphur to be combusted, the hopper comprising one or more sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the burn chamber.
2. (Original) The concentric hopper and burn chamber of claim 1 further comprising a hatch in the lid of the hopper to permit loading sulphur into the hopper.
3. (Currently Amended) A sulphurous acid generator apparatus comprising:
 - a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;
 - a hopper to hold solid sulphur to be combusted, the hopper comprising one or more sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the burn chamber;
 - a first conduit connected to the gas outlet for conducting sulphur dioxide gas;
 - a second conduit for conducting a stream of water; and
 - means for passively introducing the sulphur gases conducted in the first conduit into the stream of water in the second conduit.
4. (Currently Amended) The sulphurous acid generator of claim 3 further comprising means for substantially eliminating any discharge plume ~~comprises by reducing the~~ moisture content of ~~the~~ gases and vapors exiting the apparatus.

5. (Currently Amended) A concentric hopper and burn chamber comprising:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;

a hopper to hold solid sulphur to be combusted, the hopper comprising one or more sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the burn chamber; and

a housing adjacent the burn chamber to capture ~~the~~ radiant heat of the burn chamber.

6. (Currently Amended) A sulphurous acid generator apparatus, wherein the sulphurous acid generator combusts sulphur creating radiant heat of and about the apparatus, the apparatus generating a discharge of gases and/or vapors ~~into the air~~ causing a visible discharge plume, the improvement comprising:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;

a hopper to hold solid sulphur to be combusted, the hopper comprising one or more sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the burn chamber; and

means for substantially eliminating any discharge plume.

7. (Currently Amended) The apparatus of claim 6 where the means for substantially eliminating any discharge plume comprises reducing ~~the~~ a moisture content of the discharge.

8. (Currently Amended) The apparatus of claim 6 wherein the means for substantially eliminating any discharge plume utilizes the radiant heat created by the apparatus to reduce ~~the~~ moisture content of the discharge.

9. (Original) The apparatus of claim 6 wherein the means for substantially eliminating any discharge plume comprises a heated housing through which exiting gases and vapor flow.

10. (Currently Amended) The apparatus of claim 9 wherein the housing is heated by the radiant heat created by combustion of sulphur in the apparatus.

11. (New) A sulphurous acid generator apparatus comprising:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;

a first conduit connected to the gas outlet for conducting sulphur dioxide gas; and

a second conduit for conducting a stream of water, the second conduit comprising a restrictor,

wherein the first conduit extends into the restrictor so as to both point and terminate downstream in the restrictor.

12. (New) The apparatus of claim 11 further comprising means for substantially eliminating any discharge plume by reducing a moisture content of gases and vapors exiting the apparatus.

13. (New) The apparatus of claim 11 wherein the means for substantially eliminating any discharge plume utilizes radiant heat created by the apparatus to reduce a moisture content of the discharge.

14. (New) The apparatus of claim 11 wherein the means for substantially eliminating any discharge plume comprises a heated housing through which exiting gases and vapor flow.

15. (New) The apparatus of claim 14 wherein the housing is heated by radiant heat created by combustion of sulphur in the apparatus.

16. (New) A method for using a sulphurous acid generator apparatus, the method comprising:
contacting water with sulphur dioxide gas in a sulphurous acid generator apparatus to
produce a treated acidic water, wherein the sulphurous acid generator apparatus
comprises:
a burn chamber in which to combust solid sulphur, the burn chamber comprising
one or more sidewalls, a base, a lid and a gas outlet;
a first conduit connected to the gas outlet for conducting sulphur dioxide gas; and
a second conduit for conducting a stream of water, the second conduit comprising
a restrictor,
wherein the first conduit extends into the restrictor so as to both point and
terminate downstream in the restrictor.
17. (New) The method of claim 16 wherein the burn chamber further comprises means for
substantially eliminating any discharge plume, the means comprising reducing moisture content
of gases and moisture exiting the apparatus.
18. (New) The method of claim 16 further comprising improving crop growth by irrigating
crops with the treated acidic water.
19. (New) The method of claim 18 further comprising increasing a level of sulphur in the crops
by allowing the crops to take up sulphur from the treated acidic water.
20. (New) The method of claim 18 further comprising increasing a level of a sulphur-containing
chemical compound in the crops by allowing the crops to take up sulphur from the treated acidic
water.